Add the sentence "Certain structures from figure 4 are shown in figure 9 for clarity including electron guns 230a and 230e; beamlet focusing to minimum diameter 106a and 106e, central axis 150, iron structure 170, thermionic emitting surface 102a and 102e, resonators 172, 174, and 176, cathode centerline 152a and 152e; electron collector 112a and 112e; inner surface 173; outer surface 171.

In the Claims:

Claims 1-26 remain.

Claims 1,3,6,8,9,10,11,16-19 are amended.

New claims 27-32 are added.

Clean Claims

1(Amended) A multiple beam RF device comprising:

a housing having a central Z axis, said housing enclosing a plurality of electron beam tunnels, each said beam tunnel having a conductive inner surface, and each said beam tunnel further comprising a sequence of drift tubes and drift tube gaps, said beam tunnels arranged about said central Z axis of said housing, and said housing including a plurality of apertures, one said aperture for each said electron beam tunnel;

a plurality of electron guns equal to said plurality of said electron beam tunnels, each said electron gun producing

an electron beam passing uniquely through one of said electron beam tunnels;

a magnetic field applied to each said electron beam, said magnetic field having a variation of less than 5% over the extent of said electron beam tunnels;

each said electron gun having a cathode for the generation of electrons, an anode for the acceleration of said electrons, and a focus electrode for the focusing of said electron beams;

a magnetic field corrector adjacent to each said electron gun cathode for correcting said magnetic field such that said cathode surface has a magnetic field which is everywhere perpendicular to said cathode surface.

2) The RF device of claim 1 wherein said beam tunnels are arranged substantially parallel to said central Z axis.

3(Amended) The RF device of claim 2 wherein at least one of said drift tube gaps includes a port for the introduction of RF energy, and at least one of said drift tube gaps includes a port for the removal of RF energy.

4) The RF device of claim 3 wherein said housing is made from iron.

5) The RF device of claim 1 wherein said magnetic field is sufficient to achieve confined electron flow.

6(Amended) The RF device of claim 1 wherein said magnetic field produces a confining force which exceeds the space charge forces in each said electron beam.

Bent

7 The RF device of claim 6 where the magnitude of said magnetic field is at least 2 times greater than said magnetic field required to balance said space charge force.

8(Amended) A multiple beam RF device comprising:

a housing having a central Z axis and an R plane orthogonal to said Z axis, said housing enclosing a plurality of electron beam tunnels, each said beam tunnel having a conductive inner surface, and each said beam tunnel further comprising a sequence of drift tubes and drift tube gaps, said beam tunnels arranged in said housing and parallel to said central axis Z of said housing, said drift tubes having a minimum separation distance from said central axis Z of value D;

a plurality of electron guns, each said electron gun having a cathode, said cathode having a thermoionic emitting surface for producing an electron beam passing through one of said electron beam tunnels;

a magnetic field applied to each said electron beam, said magnetic field having a field variation of less than 5% over the extent of said electron beam tunnels;

each said electron gun having a cathode for the generation of electrons, an anode for the acceleration of said electrons, and a focus electrode for the focusing of said electron beams;

at least one magnetic field corrector, said field corrector modifying said magnetic field such that said magnetic field is perpendicular to each said cathode emitting surface.

B'cont

9(Amended) The RF device of claim 8 wherein said magnetic field corrector comprises a single coil located near at least one said electron gun cathode, and said extent of said single coil is less than said separation distance D.

10(Amended) The RF device of claim 8 wherein said field corrector comprises a single coil located near at least one said electron gun cathode and said extent of said coil is greater than said separation distance D.

11(Amended) The RF device of claim 8 wherein said field corrector comprises a first coil with an extent less than said separation distance D, and a second coil with an extent

greater than said separation distance D, said first coil and said second coil located near at least one said electron gun cathode.

12) The RF device of claim 8 wherein said field corrector comprises a coil of current-carrying wire which produces said correction field.

13) The RF device of claim 8 wherein said field corrector comprises a permanent magnet.

B'cnt

14) The RF device of claim 8 wherein said field corrector comprises non-magnetized iron.

15) The RF device of claim 9,10,11, or 12 wherein said coil comprises a coil of current-carrying wire which produces said correction field.

16(Amended) The RF device of claim 9 or 10 wherein said field corrector comprises a permanent magnet.

17(Amended) The RF device of claim 9 or 10 wherein said corrector comprises non-magnetized iron.

18(Amended) The RF device of claim 9 or 10 wherein at least one of said correction coils comprises a coil of current-carrying wire which produces said correction field.

19(Amended) The RF device of claim 9 or 10 wherein at least one of said correction coils comprises a permanent magnet.

Bent

20) The RF device of claim 9, 10, 11, or 12, wherein at least one of said correctors comprises non-magnetized iron.

21) The RF device of claim 8, wherein said field corrector is located on the main axis of said device, said field corrector has a near end in proximity to said housing and intersecting said central Z axis, and a far end opposite said near end, said field corrector comprising a radially symmetric magnetic cylinder, said field corrector having a radius which is smaller on said near end, and larger at any point near said far end.

22) The RF device of claim 21, said field corrector further including an electromagnetic coil on said smaller radius.

23) The RF device of claim 21 or 22, said field corrector further including field correcting cutouts around said plurality of electron guns.

24) The RF device of claim 8 wherein said field corrector provides a magnetic field such that equipotential flux lines formed by said magnetic field when modified by said field corrector are substantially parallel to said electron beam tunnels.

B'cont

25) The RF device of claim 1 or 8 wherein said RF device is an oscillator.

26) The RF device of claim 1 or 8 wherein said RF device is an amplifier.

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27 (New Claim) A magnetic circuit for influencing the trajectories of a plurality of electron beams, said magnetic circuit comprising:

B2

a cylindrical enclosure having a central axis and a first end cap having a plurality of apertures for the introduction of a plurality of electron beams and a second end cap for the removal of said electron beams, each said beam starting from a thermionic cathode;

a main field generator producing a magnetic field perpendicular to said central axis;

a circularly symmetric flange located on said central axis, said flange having a small diameter part for the disposition of a magnetic field generator and a large diameter part for introducing said field proximal to at least one of said cathodes;

optionally, additional magnetic field correctors.

28 (New Claim) The magnetic circuit of claim 27 where said magnetic field generator is a coil wound about said small diameter.

B2 Cont

29 (New Claim) The magnetic circuit of claim 27 where said magnetic field generator is a circular permanent magnet.

30 (New Claim) The magnetic circuit of claim 27 where said additional magnetic field correctors includes a supplemental circular field generator located on the outer surface of said first end cap, having a center on said central axis, and having a diameter sufficient to enclose said apertures on said first end cap inside said diameter of said supplemental field generator.

31 (New Claim) The magnetic field generator of claim 30 where said supplemental field generator is an electromagnetic coil.

32 (New Claim) The magnetic field generator of claim 30 where said supplemental field generator is a permanent magnet.

Bent

33 (New Claim) The magnetic field generator of claim 30 where said main field generator is an electromagnetic coil.

34 (New Claim) The magnetic field generator of claim 30 where said main field generator is a permanent magnet.